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U.S. ARMY INSTITUTE FOR RESEARCH
IN MANAGEMENT INFORMATION,
COMMUNICATIONS, AND COMPUTER SCIENCES
(AIRMICS)

FINAL REPORT - IMA INTEGRATED IC GUIDE PROJECT

(ASQBG-A-89-029)

June, 1989

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115 O'Keefe Building
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Atlanta, GA 30332-0800

U. S. ARMY INSTITUTE FOR RESEARCH
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FINAL REPORT

INTEGRATED IMA GUIDE PROJECT

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SECTION 1
PROJECT OVERVIEW

Delivery Order 01 of Contract DAKF11-88-D-0011 was based on the current research of the Army Institute for Research in Management Information, Communications, and Computer Sciences (AIRMICS) with respect to Information Centers (ICs) for the U.S. Army. The research conducted under this delivery order was sponsored by AIRMICS and performed by Information Systems and Networks Corporation (ISN). This project focused on the integration of end-user support of the Army's five (5) Information Mission Areas (IMAs) into the IC. Army Regulation 25-1 (18 November 1988) defines the IMA disciplines as automation, telecommunications, visual information, records management, and publications and printing.

Specifically, this delivery order consisted of four (4) major activities: (1) identification of the issues associated with the transition from the present IC, which supports primarily end-user automation efforts, to an IC providing integrated support for all five (5) disciplines of the IMA; (2) determination of alternative approaches for integrating the five (5) IMA disciplines into the IC; (3) meetings with Director of Information Management (DOIM) staffs and IMA discipline specialists to help identify the issues and alternatives; and (4) preparation of an Integrated IMA IC Guide based on this research.

The goal of this research is to provide information which will facilitate the Army's efforts to provide integrated support in the IC for the five (5) IMA disciplines.

SECTION 2
RESEARCH AND DEVELOPMENT ACTIVITIES

This project was designed in three (3) phases as shown in Figure 1, IMA Integration Guide Project Phases. The first phase was information gathering. In the second phase integration alternatives and transition issues were identified and analyzed. Phase three involved synthesizing the integration alternatives and transition issues into the Integrated IMA IC Guide.

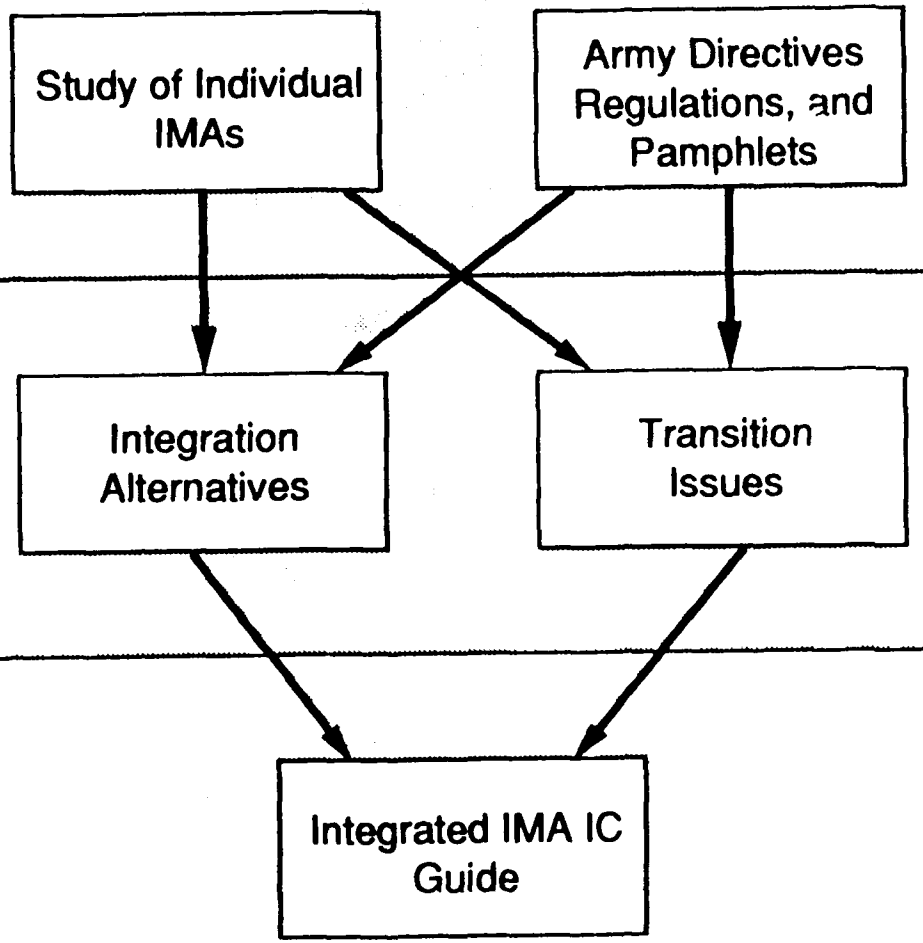
2.1 INFORMATION GATHERING PHASE

During the Information Gathering Phase, research was conducted using two (2) sources: (1) site visits and (2) literature searches. Phase One was originally scheduled to last from the project start date on 07 March 1988 through June 1988. Due to a temporary freeze on travel funds by the Army, two (2) site visits were rescheduled from June to July. An additional site visit was conducted in September to coincide with the visit of Captain Jeff Horne of the Naval Postgraduate School (see Section 3.3).

2.1.1 SITE VISITS

Site visits were conducted at ten (10) installations/ organizations, as shown in Table 1.

Integrated IMA IC Guide Project Phases



Activities:
Site Visits
Literature Reviews
Reviews of Directives

Activities:
ID and Analyze Transition Issues
ID and Analyze Integration Alternatives

Activities:
Prepare Integrated IMA IC Guide

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Figure 1

Table 1: Site Visit Schedule

Installation/Organization	Date(s)
Headquarters, Forces Command (FORSCOM) Fort McPherson, Georgia	08 March
Headquarters, Information Systems Command (ISC) Fort Huachuca, Arizona	22-23 March
Headquarters, Seventh Signal Command, Fort Ritchie, Maryland	06 April
Army Signal Center, Fort Gordon, Georgia	13 April
Headquarters, Army Materiel Command (AMC), Alexandria, Virginia	16 May
Office of the Director of Information Systems for Command, Control, Communications, and Computers (DISC4), Pentagon	17 May
(Army) Washington Area Information Center Working Group	25 May 20 July
Fort Benjamin Harrison, Indianapolis, Indiana	06-07 July
Headquarters, Army Training and Doctrine Command (TRADOC) Fort Monroe, Virginia	13-14 July
Fort Belvoir, Virginia	07 September

Individuals interviewed during the site visits included (1) DOIMs, IC managers, and other individuals responsible for the planning and implementing of the IMA integration, and (2) IMA discipline experts. The purpose of these visits was to obtain perspective from field personnel and Army policy makers on how support for the five (5) IMA disciplines can be integrated into the IC.

Information was sought during the interviews on how IMA services are currently provided, which IMA disciplines are currently supported in the IC, and ideas/plans for future support of the IMA disciplines in the IC. A list of topics for discussion (see Table 2) was formulated to guide the interviews. Site visit reports from each installation/organization are found in Appendix B.

2.1.2 LITERATURE SEARCH

In addition to the site visits, research was conducted during the Information Gathering Phase by means of literature searches. Existing and draft Army Regulations and Pamphlets were reviewed to determine what Army policy impacts implementation of support for the five (5) IMA disciplines in the IC. Technical periodicals were also reviewed to ascertain future directions in technological development in the discipline areas.

2.1.3 PHASE ONE RESULTS

The preliminary results of Phase One were presented at the Second In-Process Review of the project, held at AIRMICS on 30 June 1988. Four (4) major problems were identified by ICs

Table 2: Site Visit--Topics for Discussion

I. Background

- A. Overview of IMA Discipline
- B. Mission of Discipline
- C. How Discipline Fits into Organization

II. Support Provided

- A. Services and Functions
  1. Services Currently Provided
  2. Typical Scenario
  3. Additional Services Planned (Funded)
  4. Additional Services Desired (Unfunded)
  5. Impact of Changes in Technology on Services
- B. User Interfaces
  1. User Support Needs
  2. User Information Needs

III. Integrated IMA IC

- A. Existing Interfaces Between Disciplines
- B. Potential Interfaces
- C. Ideas for Integration
- D. Commonality and Uniqueness
- E. Ideas for Transition
- F. Anticipated Problems

currently in operation: (1) lack of resources (staffing), (2) stove pipe systems, (3) lack of guidance, and (4) expanding expectations and requirements.

The sites feel that the problems described above will be magnified as the role of the IC expands to incorporate the IMA disciplines. The transition issues anticipated during the site visits are closely related to the problems currently experienced in the ICs.

Most Army ICs visited in the course of this project are just beginning to explore how they will integrate support for the IMA disciplines in the IC. All of the ICs visited focus their support efforts on automation. In addition, all of the sites will act as a point of contact for the other IMA disciplines, although most users still call the discipline area directly, without contacting the IC. Some of the sites have integrated support for communications in the IC. One site, Fort Gordon, has resident experts for all five (5) IMA disciplines located in the IC.

2.2 ISSUES IDENTIFICATION AND ANALYSIS PHASE

In the Second Phase of the project, transition issues and integration alternatives were identified and analyzed. Additional literature searches were performed in four (4) areas during Phase Two to identify potential parallels with the integrated IMA IC: (1) the information resources management (IRM) concept; (2) Richard Noland's theory of stages of ADP growth; (3) organizational change; and (4) distributed data processing.

Supplementary research was also conducted on the impact of emerging technologies on the IMA disciplines.

2.2.1 TRANSITION ISSUES

The purpose of this phase of the project was twofold: (1) to identify the issues associated with the transition from the present IC, which supports primarily end-user automation efforts, to an IC which provides integrated support for all five disciplines of the IMA; and (2) to determine alternative approaches for integrating the five (5) IMA disciplines into the IC. Originally, transition issues and integration alternatives were studied as separate questions. During the identification of these issues and alternatives, the ISN team concluded that each integration alternative would result in unique transition issues. Transition issues are discussed as a consequence of specific integration alternatives in this report and in the Integrated IMA IC Guide.

2.2.2 INTEGRATION ALTERNATIVES

ISN examined alternative methods for incorporating the five (5) IMA disciplines into the IC. Three alternatives were developed and analyzed. Alternatives were developed from the site visit data (see Section 2.1.2), including current practice in the field and ideas generated by field and AIRMICS personnel. The alternatives are based on the common functions performed by all IMA discipline areas. The integration alternatives are depicted using a grid (see Figure 2), which can be used by the installation to modify the alternatives for the specific site. Each alternative, except the first, can be implemented in two (2)

Integration Alternatives

	Publishing and Printing	Visual Information	Records Management	Communications	Automation
Point of Contact					
Needs Assessment					
Problem Solving					
Training					
IMP Initiative					
Acquisition					
Maintenance					
Policy Recommendations					
Policy Implementation					
Policy Enforcement					
Evaluate Technology					
Information Product Preparation					

Figure 2

ways. The IC can integrate by function, that is the IC can provide the same service (i.e., training) across all IMA disciplines. Alternately, the IC can integrate by IMA discipline, providing all of the specified end-user support services for that discipline. The integration alternatives are summarized below and in Table 3. A complete discussion of the alternatives is found in the Integrated IMA IC Guide.

The first alternative is the Point-of-Contact (POC) IC. This IC consists of the services currently offered by the IC, plus the point-of-contact function for all IMA disciplines that have been transferred to the DOIM. This alternative would be relatively easy to implement and meets the minimum requirements of AR 5-3. The novice user would benefit from the single point-of-contact; however, experienced users may view the new organization as added bureaucracy with no additional benefits. The major transition issue for the POC IC will be to establish formal lines of communication between the staffs of IC and the IMA disciplines areas.

A second integration alternative is the User Services IC. In addition to serving as a point-of-contact for the IMA disciplines, this IC provides those services which require direct user interaction. Functions could include needs assessment, problem solving, training, CAPR/IMP initiatives, acquisition, and hardware maintenance. The transition issues will focus on the additional staffing and facilities which will likely be required. Resources may be consolidated from IMA discipline areas to meet the expanded scope of the IC. This alternative potentially provides more effective utilization of resources; however,

IC INTEGRATION ISSUES SUMMARY

Function	Point-of-Contact IC	User Services IC	Information Management IC
Facility	No Change	More space for staff, equipment, training	No Change
Staffing	No Change	Consolidation of staff from other areas	Additional staff for additional functions
Organization	Establish Lines of Communication	Realigned/ Consolidated Organization	IMAs Support IC's role
Policy	Procedure for Tracking Requests	Delineation of Responsibilities	IC Oversees all efforts to support End-Users
Management of End-User Efforts	Loose Control	Opportunities for Control	Determines Control

Table 3

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transfer of resources and restructuring of the organization maybe difficult to accomplish.

The third integration alternative is the Information Management IC. This IC provides the services of the User Services IC, and in addition, takes an active role in providing direction and/or oversight of the user's involvement with the IMA disciplines. Functions potentially included in this IC are: policy recommendations, implementation, and enforcement as well as technology evaluation and access control. This alternative provides optimum control over end user efforts. The major transition issue for this alternative will be to establish the IC's role vis-a-vis the DOIM.

If the integration alternatives are viewed as a continuum with the POC IC at one end, the opposite end would be an Information Systems Facility (ISF). The ISF, which will be described in detail in the new Army Pamphlet 25-7, is envisioned as a single facility where all the user's information needs are met. For example, the user could receive such information products as print jobs from the print plant or computer printouts. ISN suggests that these operations are beyond the scope of the IC, thus the ISF is not a true integration alternative.

2.2.3 PHASE TWO RESULTS

The results, as summarized above, of Phase Two were presented at the Third In-Process Review of the project, held at AIRMICS on 05 October 1988.

2.3 GUIDE PREPARATION PHASE

The Phase One and Two data collection and evaluation activities described in Sections 2.1 and 2.2 were used in Phase Three to prepare the Integrated IMA IC Guide. The Guide is a separate project deliverable, CDRL A007. The Guide was designed as a companion to the IC Planning and Implementation Guide, which was sponsored by AIRMICS and developed by ISN under a previous contract.

The final results of the project were also summarized at the final In-Process Review of the project held on 07 February 1989. This report was also developed during the final phase of the project.

SECTION 3
OTHER PROJECT ACTIVITIES

In addition to the research and development activities described in Section 2, other project activities were identified as associated with the project in the Performance Work Statement and during the period of project performance. These activities included: (1) project management; (2) potential hardware and software support; and (3) providing the results of AIRMICS' IC research to support other Army efforts.

3.1 PROJECT MANAGEMENT

Project management consisted of all of the management functions performed during the course of the delivery order. Management functions included the development of the task schedule, cost and performance status reporting, research and development status reporting in-process reviews (IPRs), Memorandums for Record (MFR) for each IPR, and supervision of the personnel working on the IMA Integration Guide Project.

3.2 HARDWARE AND SOFTWARE SUPPORT

No hardware or software was identified by the government as necessary to fulfill the requirements of this delivery order. Therefore, hardware or software was neither procured, nor will be delivered in connection with this project.

3.3 PROVIDING RESEARCH RESULTS

ISN staff participated in two meetings to present AIRMICS' IC research to date and to discuss IMA integration issues. The first presentation was given at the Information Center Working

Group Meeting held on 25 May at the Information Systems Engineering Command's facility in Falls Church, Virginia. The second presentation was to the DOIM Workshop participants at the annual Signal Conference held at Fort Gordon, Georgia on 07 - 08 December.

In addition, the results of the IC research sponsored by AIRMICS was provided to U.S. Army Captain Jeff Horne. CPT Horne, a master's degree candidate at the Naval Postgraduate School, was conducting research for his thesis on ICs. Meetings with CPT Horne included an exchange of reference materials, discussion on the current status of Army ICs, and a site visit to Fort Belvoir. CPT Horne also attended the third In-Process Review of the project.

SECTION 4
PROJECT DELIVERABLES

The deliverables for the IMA Integration Project and the dates they were delivered are shown in Table 4, below.

TABLE 4: PROJECT DELIVERABLES

DELIVERABLE	DATE DELIVERED
TASK SCHEDULE	03 May 88
MEMORANDUMS FOR RECORD	14 March 88 21 July 88 20 October 88 16 June 89
R & D STATUS REPORTS COST & PERFORMANCE REPORTS	04 April 88 06 May 88 07 June 88 01 July 88 05 August 88 13 September 88 13 October 88 07 November 88 07 December 88 09 January 89 07 February 89 28 March 89 10 May 89
ALL HARDWARE & SOFTWARE	Not Applicable
FINAL REPORT DRAFT	25 January 89
FINAL REPORT	16 June 89
INTEGRATION IMA IC GUIDE DRAFT	06 April 89
INTEGRATION IMA IC GUIDE	16 June 89

SECTION 5
RECOMMENDATIONS FOR ARMY IC ENHANCEMENTS

Widespread implementation of the Information Center concept began in the Army in 1985. Each installation has adapted the concept based on available resources to fit its specific requirements. The recommendations for future directions listed here are derived from three (3) sources: (1) concerns expressed by DOIMs and IC Managers based on several years' worth of experience with ICs in the field, (2) the observations of the visitation team on the factors which contributed to the greater relative success of some Centers, and (3) a meeting held on 05 October 1988 to discuss future directions in IC research. A list of the ideas generated in the future directions meetings is found in Appendix B.

5.1 STAFFING REQUIREMENTS STANDARD

One concern was expressed by every IC visited during this study: lack of personnel resources. Staffing for the IC has been taken "out of hide." While some sites have developed creative approaches for staffing their Centers, each site felt that the current level of demand for services exceeded its staffing resources. Given that the mission of most ICs now focuses on automation, the DOIMs and IC Managers in the field are concerned about how they will meet the mission of the expanded IMA IC.

It is our recommendation that the Army establish a staffing requirements standard for ICs. While recognizing that such a standard does not guarantee that the resultant slots will be filled, we believe a staffing requirements standard would

accomplish several goals: (1) provide a consistent base line level of end-user support throughout the Army; (2) demonstrate the Army's commitment to the IC concept; and (3) change the focus of the ICs staffing problem from "how can I get slots to staff the IC" to "how can I best utilize the staff resources I have."

Additional research is needed to establish a staffing standard which would account for the variability in size and IMA requirements of each installation. The resulting standard could be a formula which would be applied to each installation; alternately, the standard could be a set configuration for installations defined as small, medium, or large in size.

5.2 CENTRALIZED SUPPORT

Although each installation has adapted the IC concept to fit its needs, certain functions and services are common in most ICs. Newsletter, training, and help desk activities are examples of typical IC functions. We recommend an analysis of the common functions to determine what portions of those activities could be provided through a central location. By eliminating redundant activities, this centralized support would help the site ICs to maximize their limited personnel resources. A few of the potential areas of centralized support are outlined below.

Many installations either publish or would like to publish an IC newsletter. While these newsletters generally contain some site-specific information, they often provide both tips on using common software and information on common technical issues. Those portions of the newsletter which are not site-specific could be developed by a central organization and distributed to

the ICs. The ICs could then add their own site-specific information.

Likewise, many ICs offer training. Courses for commonly used products, such as PROFS, could be developed and distributed from a central source. Individual ICs would then be able either to use the course as-is or to customize the course to meet specific requirements. Alternately, this central source could serve as a clearinghouse for courses by collecting those already developed in the Army and distributing them to other Army ICs.

The application of expert systems to IC functions is another way to maximize staff resources. For example, an expert system applied to the help desk operation could potentially: (1) reduce response time; (2) increase quality of response; (3) allow lesser experts to man the help desk; and (4) eliminate the loss of expertise the IC experiences with staff turn-over. The expert system could be updated from individual ICs to a central location and then redistributed to all Army ICs. In this way expertise found in one installation in available to anyone in the Army.

The Army currently sponsors the General Purpose Computer Support Center (GPCSC) under the Information Systems Engineering Command (ISEC). The GPCSC provides customer support, general information services, and technology support Army-wide. The GPCSC is a potential location for centeralized support activities such as the ones recommended here.

5.3 END-USER MANAGEMENT TRAINING

Use of microcomputing technology is prevalent throughout the Army, and many ICs provide training in the use of this

technology. We have observed, however, that little training is provided to the supervisors of these end-users on data management responsibilities. Because the supervisors often do not have an ADP background, issues such as data integrity, data security, documentation, and backup and recovery procedures are not addressed. As a result, inaccurate data and data loss are common, wasting valuable resources. We recommend an end-user management awareness program to address these issues. Some of the alternative ways this program could be implemented include centrally developed courses, additions to current management training courses, and articles in IC newsletters.

5.4 DOIM IC AND IMA TRAINING

The visitation team made two (2) observations during the DOIM interviews which led us to recommend DOIM training. First, the DOIMs said that they wanted more top-down guidance on IC implementation. Second, the DOIMs often did not have a clear understanding of the purpose of the IMA. We believe that the success of the IC and IMA concepts will be enhanced if the concepts are "sold" to the DOIMs. This training could be incorporated into the existing DOIM course and workshop sessions.

In support of this recommendation, the visitation team noted that the most successful ICs had what we termed a "champion." This individual, either the DOIM or the IC Manager, was convinced of the viability of the IC concept. One IC was more successful than an equivalent installation's IC because of the determination of the champion to meet the challenges of implementing and operating the IC. Many installations do not have ready-made

champions; however, we believe that DOIM training will help to create the needed champions.

5.5 SUMMARY OF RECOMMENDATIONS

The role of the IC in the Army will expand as support for the IMA disciplines is integrated into the Center's functions. ICs currently feel user demand exceeds their capacity to meet the demand. Now with this expanded role of the IC, IC managers feel that they are being asked to run while they are still learning to walk. We believe that implementing the strategies outlined in this section will provide the ICs with the support they will require to meet their expanded mission.

In summary, ISN recommends that the Army implement:

- A staffing requirements standard for Army IC;
- Centralized support for common, labor-intensive activities;
- Training for managers of end-user computing; and
- Training for DOIMs on the IC and IMA concepts.

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APPENDIX A
SITE VISIT REPORTS

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Headquarters FORSCOM - Site Visit
8 March 1988

Present at the meeting at FORSCOM in Building 201 at Fort McPherson were the following:

NAME	ORGANIZATION
Mr. Al Curry	FORSCOM
Dr. Michael Evans	AIRMICS
Ms. Ruth Ann O'Connell	ISN
Mr. William Overbay	ISN
Mr. Sam Owens	FORSCOM
Mr. Jim Smitherman	FORSCOM

Mr. Curry provided a brief overview of the Plans, Mobilization, and System Integration Directorate, and then introduced Mr. Owens, the Chief of the Directorate.

Mr. Owens described the technological innovations included in the new FORSCOM Headquarters building. The building will have two networks, classified and unclassified, both served by the same microcomputer workstation. Users move a switch to move from one network to the other. The data has been coded to detect attempts to download classified data into unclassified mode. Removable hard disks will be provided so that classified data can be secured in a safe in the same way that classified documents are currently stored. In addition to serving as terminals on the network, the workstations are operable as stand-alone microcomputers.

Three information management activities were described: (1) the FORSCOM Information Architecture Model (IMA; (2) the FORSCOM Information System (FIS); and (3) the Installation Support Module (ISM). The purpose of IAM is to provide an automated Information Systems Plan (ISP) and to support FORSCOM information Management. FIS, the command-wide information system, emphasizes data

management as the key to building and maintaining corporate data. The purpose of ISM is to build common databases supporting vertical communication between organizational elements on the installation level.

Mr. Owens expressed concern about the number of stove-pipe systems currently operating, and the number of new systems under development. He feels that the information management problems facing FORSCOM are not in the integration of the IMA disciplines but in the inability to share data across stove-pipe systems.

Headquarters ISC - Site Visit
22 - 23 March 1988

During a two-day visit to HQ-ISC, Mr. Ron Tolbert of ISC DSCPLANS hosted the ISN team of Ms. Ruth Ann O'Connell and Mr. William Overbay and the AIRMICS representative, Dr. Michael Evans. Meetings were scheduled with Headquarters staff members of DCSOPS, DSCPLANS, and DCSIM, as well as U.S. Army Garrison, Ft. Huachuca. A summary of each of these meetings is provided below. The summaries are presented in chronological order.

Mr. Tolbert provided an overview of the visual information area. Visual information includes products (i.e., view-graphs, slide shows, and movies) as well as the equipment, production, and distribution needed for the end product. All equipment costing in excess of $5000 is procured through ISC; however, for the years 1988-9 Congress has raised this amount to $15,000. The Television/Audio Support Activity is used for procurement. This activity is also involved in procurements for the Navy and Air Force.

The first meeting was held with Ms. Kathy Edwards, IC Chief, under the DOIM, U.S. Army Garrison, Ft. Huachuca. Ms. Edwards described the current services the IC offers and the future she sees for the operation. The IC has been in operation since October 1986. It has a staff of twelve (12). Nine (9) staff members are permanent, and three (3) are on detail. The detailed staff are usually on board for 120 days. There are approximately 4000 PC users at the installation. The IC focuses on two areas, consulting and a self-help facility. Consulting includes a help desk, software problem analysis, and application development

assistance. Ms. Edwards says the IC stops short of "hitting the key" but does everything else to provide systems design, systems analysis, and programming assistance for end-users. The IC sponsors a Self-Help Facility which provides demonstrations of hardware and software, one-on-one training, and access to shared equipment such as optical character readers. One of the staff members of this facility is provided by the Visual Division. The IC provides some training to users in small groups and develops software reference guides; however, users are most often directed to outside sources for training. The IC also writes a column entitled the "Computer Corner" for the weekly Scout. In addition, the IC performs some evaluation of software.

Ms. Edwards commented that the software evaluations provided by the GPCSC sometimes served as a starting point for the IC's evaluations. She also said that of the GPCSC's services she found the DOIM awareness letter and the bulletin board the most useful.

Several problem areas were identified by Ms. Edwards. She feels that while she has some exceptional personnel, the grade levels allotted to the IC are too low. In addition, the increasing number of stove-pipe systems causes a lack of standardization.

Ms. Edwards feels the future role of the IC is to provide the services necessary to maximize software utilization. She sees the IC as the point of contact for end-user support of the IMA disciplines--directing users to others who can help.

The second meeting was with Mr. Gerald King, Chief of the Policy Branch, Policy and Management Division, DCSOPS. Mr. King

described the role of the IC as the point of contact between the provider and the user. He said that many ICs in the Army were not staffed. The IC at Ft. Benning recently closed because the installation felt both that it needed other things worse and that there were other ways to get the services provided by the IC.

The role of ISC, in Mr. King's view, is to provide common user services. The IC is the "front man" for the DOIM on an installation. ISC is developing the Army corporate database, however, the data will be owned by the functional units.

Mr. King reviewed the IMA disciplines, describing how the assets had been/would be transferred to ISC. For automation, the mission and function of the system dictate whether the function will transfer. Most records management resources have already been transferred. Management and policy of publication and printing are scheduled to come to ISC 1 October 88. Printing plants have already been transferred. Some visual information resources (i.e., TRADOC) are so closely tied to the mission that the resources have not yet, and may not be transferred.

Communication and automation are the link between the IMA disciplines, according to Mr. King. He sees the IMA as 95% communications and automation; the remaining 5% visual information, records management, and publications and printing.

Mr. King described the Integrated Services Facility model for the Army. This facility would house classrooms and briefing rooms as well as be the source of assistance for information needs. As an example, Mr. King said that an individual at Ft. Huachuca who needed a passport could go to any one (1) of twenty-

three (23) locations to get the necessary forms. If there was an Integrated Services Facility, there would be one (1) place to go for this service. Such a facility is currently being developed for Ft. Drum, NY.

Next we met with Mr. Lonnie Fuqua of the Policy Branch, Policy and Management Division, DCSOPS. Mr. Fuqua is in the process of developing AR 25-7 and PAM 25-7. AR 25-7, entitled Installation and Information Services, provides guidance to the DOIM on what services to provide. It also informs the end-user what can be expected from the DOIM. PAM 25-7, entitled Information Services Systems, provides guidance on how information services can be provided. Both of these documents are in early draft stage. Information copies were provided.

Mr. Fuqua sees the IC as an advisor rather than a doer. In his view, the IC should be involved in decisions about what can be automated to save money and increase productivity.

The next meeting was scheduled with Ms. Blanco, Acting Chief for Records Management, Office Systems Branch, Policy and Management Division, DCSOPS. Ms. Weaver, also of Records Management, participated in the meeting as well. Ms. Blanco defined records management as the management of information, including file creation, maintenance, retention, and disposition. Office equipment, technical libraries, correspondence, and official mail distribution are also included.

The two questions most frequently asked by users are: (1) how to obtain training and (2) how to set up a filing system. The Modern Army Record Keeping System (MARKS) is used for .pa filing. Training is available for MARKS and correspondence. AR

25-400-2 is the MARKS regulation.

MAFA is the automated version of MARKS. MAFA is currently implemented at DoA Headquarters, and, according to Ms. Blanco, will be eventually implemented at the installation level.

One of the issues currently facing records managers is how to manage electronic record keeping. A policy is under development and will address legal and permanency issues. Laws regarding records retention apply regardless of the medium on which they are stored.

Ms. Blanco sees the role of the IC in records management as the place to obtain information on how to obtain records from Record Holding Areas and the Federal Records Center. The Installation Records Holding Area is under the DOIM.

The first day's meetings concluded with a discussion with Mr. Tolbert on the implementation of ICs Army-wide. Approximately 133 ICs have been implemented. A list of these ICs and contacts was provided.

The second day began with a meeting with Ms. Susie Lorenz, DCSIM. Ms. Lorenz described the following as factors which established the base-line configuration for Ft. Huachuca: installed base, standard contracts, what the DOIM can support, and what the users want.

Ms. Lorenz feels that the biggest user need is for training. She does not feel that the IC is providing as much training as it should. Ms. Lorenz described a training program for executives which her organization sponsored. In this program, outside consultants were hired to work with executives (Division

Directors and above) on a one-on-one basis, one hour at a time. Outside consultants, Ms. Lorenz felt, were important because they had no political axes to grind. She estimates that executives use microcomputers primarily for e-mail and word processing.

Following the meeting with Ms. Lorenz, we met with three (3) members of her staff: Ms. Allen, Records Management; Mr. Vangilder, Communications; and Ms. Brooks, Publications and Printing.

Ms. Allen described records management as the management of the creation, use, and disposition of records. She described a prototype records management system which will include text, graphics, and engineering drawings. It will be tested first in Greely Hall (ISC Headquarters building at Ft. Huachuca), then at the installation, and then at sub commands of CONUS. The statement of work for this prototype is currently under development. The prototype will include a high density storage media such as an optical disk so that references listed in a document may be stored with the document for easy access.

The requirements analysis for the prototype will examine both the vertical and horizontal flows of information, the ISP, volume of records, requirements for information sharing, and how long records need to be held on-line.

Mr. Vangilder feels that a lack of standards and lack of interoperability between equipment will hamper the integration of the IMA disciplines. In addition, he feels that most systems are not user friendly. These "hostile" systems pose a significant hindrance to the Army Action Officer. Mr. Vangilder cited industry's lack of responsiveness as the source of these

problems. Mr. Vangilder's solution would be to define for the user a "tool kit" of hardware and software which would avoid standardization and interoperability problems.

Of all automation efforts, Mr. Vangilder views video teleconferencing as the only effort where productivity gains can be measured.

Ms. Brooks described the features of the electronic publishing system, which will be procured in the near future. The system will have the capability to merge graphics and text. An automatic plate generator is desired. The system will be used to produce command publications. The system will be placed in the IC's Self Help Facility for easy access. The eventual goal is to enable the user to write a publication on his own workstation, transfer it electronically to the publishing system for polishing and integration of graphics, and finally transfer the final product electronically to the print plant for printing. Ms. Brooks expressed concern about the combination of personnel assets in the IC. She fears that personnel co-located in the IC may be transferred to the IC and then the slot may be lost, and the needed expertise unavailable. This concern stems from negative experiences she has had involving the use of the Optical Character Reader located in the IC, but paid for with DCSIM resources.

After the meetings with DCSIM personnel, we met with Mr. G. C. Chaney, Chief of the Operations Branch of the Management Division/Engineering Activity of the DCSRM. Mr. Chaney discussed the staffing considerations for the IC. He noted that

AR 5-3, which describes the standard configuration, is under revision.

Mr. Chaney's advice to ICs seeking to justify staffing is to first get the staffing requirement recognized. This procedure involves a manpower survey as described in AR 5-7-4, and the submittal of Schedule X documents. Once the staffing requirement is identified, resources may come from a re-programming of resources or through a TAA. The TAA is used in cases of dire need and describes the negative impact if the need is not met.

Mr. Chaney also reviewed the staffing patterns of Army ICs. ICs range in size from one (1) individual to over ten (10). A copy of the summary of the authorized staffing levels was provided.

After meeting with Mr. Chaney, we visited the Self-Help Facility. A previously mentioned resource in the facility is the Optical Character Reader. Other resources include Wang word processing terminals, a machine to prepare text for briefings, and a machine which transfers 8" floppies to 5 1/4" floppies and converts files from one file format to another (i.e., WordStar to WordPerfect).

The two days of meetings concluded with a discussion with Mr. Tolbert. Mr. Tolbert reviewed the procedure for funding a required capability. If the DOIM cannot satisfy the need, or if the project exceeds the dollar threshold, the need is included in the installation's IMP. The IMP is submitted through the DCSIM/MACOM to DoA. Approved requirements are incorporated into the IMMA and then forwarded to USAISC. Disapproved requirements

are returned to the DCSIM/MACOM for review. Approved requirements are reviewed at USAISC to determine if the requirement is currently being met in the Army, and to ensure that the requirement will conform to standard Army architecture. These reviews are followed by programming and costing analyses. If the requirement does not exceed the MASART threshold, it may be tasked to ISEC. If it does exceed the threshold, program plans and costs are prepared for out-years.

Mr. Tolbert then provided an overview of the out-year requirements for FY 90-95 for the disciplines of visual information, publications and printing, and records management. The requirements for visual information include Video Teleconferencing (VTC) Facilities, automated graphics, and the production of films, video tapes, and inter-active video disk training. Publication and printing has the required capability of electronic transmission of publications through these four (4) stages: (1) creation using desktop publishing; (2) electronic staff reviews; (3) automated print plants; and finally (4) dissemination to libraries. In the discipline of records management, out-year requirements include electronic record keeping, standardization of microfiche, and exploration of storage technology.

Fort Ritchie - Site Visit
06 April 1988

Mr. William Keely of the Seventh Signal Command's Army-Wide Planning Branch, hosted Ms. Ruth Ann O'Connell of ISN during the site visit to Fort Ritchie. Mr. Keely serves as Seventh Signal's point-of-contact for ICs. He coordinates two (2) IC working groups, one located in the Washington, DC area, the other in the Pennsylvania area. Mr. Keely invited members of the IMA Integration Guide project to address the next working group meeting in DC and to solicit input from the group. This meeting is scheduled for 25 May. Representatives of more than fifteen (15) organizations will be present. Mr. Keely also plans to survey ICs through the GPCSC's DOIM Quarterly Newsletter.

Mr. Keely and Ms. O'Connell met first with Mr. David Hughs, Assistant DCSOPS. Mr. Hughs feels that it is the job of the DOIM to enable end-users to be efficient in their use of the technology; however, he feels that the DOIM's job responsibilities are so encompassing that the DOIM does not have time to do his job properly.

Locally, the IC is under staffed. Mr. Hughs would like to see user groups meet some of the needs that the IC cannot. He feels the future of the IC will depend on the financial resources it is provided. Currently the IC cannot exploit the available technology. Ideally, he would like the IC to be able to visit the user in his environment to solicit and analyze user problems.

Mr. Hughs sees the IC of the future as the point-of-contact of the IMA disciplines. All customer interface would be in the IC. A trouble desk would be in the IC which would forward users

on to the source of help. Mr. Hughs feels that the IC should follow-up to ensure that help is received.

The next meeting was with four (4) members of the DOIM staff, including: Mr. Richard Sohm, the DOIM; Ms. Kathy Cooper, IC Manager; Ty Placek of the Visual Information Division; and Wanda Bowman of the Administrative Management Branch.

The consensus of the group was that in the future the IC should act as a traffic director, directing users to the appropriate IMA discipline. It was also felt that the IC should not become a dumping ground for activities which do not fit elsewhere. User services should be carefully evaluated before inclusion in the IC. In this model, services would remain where they are unless the user would be best served by placing the service in the IC. For example, shared equipment resources would be appropriate for inclusion in the IC. The opinion was expressed that there should be centralized guidance from the "top" regarding what services should be in the IC.

The IC at Fort Ritchie has one (1) chief and two (2) systems analysts. The Schedule X for the IC justifies nine (9) positions. The IC opened in February of 1987, and recently furnished a training room with microcomputers and a projection system. Users can sign out software tutorials. Users can also view video tapes in a group setting in the IC, with staff available to answer questions. In addition to training, the IC provides the following services: analyzes automation requests; approves acquisition requests; installs hardware and software; determines and resolves hardware and software problems; evaluates software packages; and coordinates monthly user group meetings.

The IC also sponsors an electronic bulletin board serving over one hundred (100) users. The IC maintains a database of trouble calls, and a database of the serial numbers of ADP equipment on post. Over 1000 trouble calls have been logged, most are software related. Like many other ICs, this IC performs services outside of the scope of its mission when required. For example, the IC has spent several hundred hours preparing a top management briefing using PC Storyboard.

The final meeting of the day was with Mr. Robert Lowry, Chief of the Plans Division, under the Deputy Chief of Staff for Operations and Plans. Mr. Lowry feels that the IC should have the nucleus of knowledge of the IMA disciplines; however, not all of the IMA services should be in the IC. For example, in his view, desktop publishing could be integrated in the IC, but the rest of printing and publications should not be incorporated. Mr. Lowry feels that the IC should not be discipline oriented, rather oriented to third-tier user needs. Mr. Lowry also expressed the need for more general guidance regarding the IC. As an example, all ICs could have a standard charter.

Fort Gordon - Site Visit
13 April 1988

Mr. Ralph Willey of the Signal Corps School served as the point-of-contact at Fort Gordon. Dr. Michael Evans of AIRMICS and Mr. William Overbay of ISN were briefed on four (4) topics by various staff members: (1) the DOIM course, briefed by Mr. Willey and MAJ Lund; (2) IMA integration efforts in the tactical arena, briefed by COL Greenwood; (3) IC activities, briefed by the DOIM, LTC Heaton; and (4) IC services desired by users, briefed by the Deputy Chief of the Signal School, COL Lewis.

Fort Gordon's DOIM course emphasizes the DOIM's responsibilities in helping the user community identify their information needs and prepare their inputs to the installation's Information Management Plan (IMP). The determination of information needs is based upon the completion of an Information Systems Plan (ISP). They have found that in most cases the ISP has not been properly conducted and, therefore, fails to support the creation of a meaningful IMP. It was also mentioned that the DOIM needs better guidance on the procedures for developing an installation information architecture.

In the area of integration of the IMA disciplines, the consensus of opinion was that the integration of telecommunications and data processing have been accomplished. Incorporated in this integration has been the development of a large body of automation tools, standards, and procedures. Their concept for the integration of records management with printing and publications is to apply the existing automation tools, standards, and procedures to the labor intensive processes of

these functions and to leave the responsibility for the performance of the functions to the activities currently performing them.

The DOIM at Fort Gordon has set up the IC to act as the single point-of-contact for all user interface with the IMA areas that have been transferred to his control. He has assigned a "resident expert" for each IMA discipline to the IC so that the user has only to contact the one phone number to get the needed assistance. He has established a help desk to provide the initial contact with the user community.

COL Lewis indicated that he felt that the DOIM and the IC staff could employ better public relations. Instead of an attitude of "no, we can't do that," he would like to see the attitude of "we can't do that now, but we can help you do something in the meantime."

Mr. Willey is attempting to schedule and interview with GEN Harris, the Commandant of the Signal School. The General is leaving Fort Gordon in the near future to become the Director of Information Systems for Command, Control, Communications, and Computers (DISC4) at the Pentagon.

Site Visit - Headquarters, Army Materiel Command (AMC)

16 May 1988

Mr. Roy Tillery, Chief of the Information Center, hosted Dr. Mike Evans of AIRMICS and Ms. Ruth Ann O'Connell of ISN during their visit to AMC HQ. Mr. Tillery described the four (4) sections of the IC; a discussion with staff in each section followed Mr. Tillery's overview. The sections of the IC include: (1) workplace automation; (2) software applications; (3) audio visual self-help; and (4) communications. Mr. Tillery also offered some of his views on the IC. He feels the emphasis of the IC is on service. He is concerned about the possible overlap and redundancy of services as the IC incorporates the IMA disciplines. He also questions whether or not maintenance belongs in the IC.

The workplace automation section performs typical IC functions, primarily answering automation questions for mainframes, minis, and pcs. Less experienced personnel answer the phone and try to answer the question. Difficult calls are passed on to more experienced staff. Approximately sixty percent (60%) of the problems are resolved over the phone. Staff carry beepers when they go on-site to solve problems. Problems are logged and tracked manually. Maintenance calls are passed on to the maintenance section, which is not part of the IC. The IC does track these calls, however. In addition to problem solving and consulting, the section also conducts seminars and one-half hour one-on-one "get-me-started" training sessions. Long-term training is provided by the CPO. Some hardware and software evaluations are also performed. While proposed standards exist,

IC support is not limited to this list. The staff of this section is composed of four (4) 334s. ADP interns are often used to staff the section.

The software applications section develops non-standard software. These are one-time, special programs required by AMC HQ. Projects may take from one (1) day to six (6) month to complete. Occasionally, this section aids users in the development of their own programs. This section contains five (5) staff.

The communications section is involved in the securing of telephone line and instruments for AMC HQ. They also handle requests for service and provide information on repairs. The communications section was formerly a part of the Communications Center. Telecommunications, message traffic, and secure communications are still handled by the Communications Center. This section contains two (2) staff.

The audio visual section provides self-help graphics and loans a-v equipment to AMC HQ. The graphics equipment available is not automated and includes Kroy machines, copiers, and transparency makers. This section contains one (1) staff.

Following the meeting with the IC staff, the visitors met with Mr. Gene Kishok, the Deputy DOIM. Mr. Kishok sees the IC as the focal point of the DOIM's activities. In his view, the IC is the user's front line on all the IMA disciplines. He also believes that the IC Chief "makes or breaks" the DOIM.

Mr. Kishok identified three (3) pitfalls or problems which may be encountered in the IC: (1) the tail (user) may wag the dog

(IC); (2) how to train IC staff; and (3) how to find space for the IC facility.

At AMC HQ, Mr. Kishok projects the following changes in the IC and automation arenas: (1) consolidation of computer rooms; and (2) additional personnel to the IC especially in the software applications section.

AMC HQ plans to have an intelligent building. A LAN will be installed, and eventually everyone will have his/her own pc.

Director of Information Systems for Command, Control, Communications, and Computers (DISC4)

17 May 1988

Present at the meeting held in the office of Ron Craven, Division Chief of DISC4 (SAIS-PSP) in the Pentagon, were:

Mr. Chuck Beresford	DISC4 (SAIS-PSP)*
Mr. Ron Craven	DISC4 (SAIS-PSP)
Dr. Mike Evans	AIRMICS
Ms. Joan Hamilton	DISC4 (SAIS-PSP)
Mr. Emil Nazzaro	APPMO (SFIS-FAP)**
Ms. Ruth Ann O'Connell	ISN
Mr. Harry Osborn	DISC4 (SAIS-PSP)
Mr. Bill Walker	DISC4 (SAIS-PSP)

The 25 February 88 draft AR 25-1 was distributed along with a re-draft for Section 7 (visual information) of the document. The new AR 25-1 will consolidate the previous versions of AR 25-1 and AR 25-5.

The IMA disciplines were discussed. The views of the attendees as they relate to the IC and the IMA disciplines are described below. An estimated seventy-five percent (75%) of the Visual Information (VI) managers are not currently under the DOIM. It was suggested that the IC should have a VI consultant, no matter who "owns" the VI function.

The Defense Automated Visual Information System (DAVIS) is under development. The system is designed for all services and will be world-wide. It will show the available VI resources, and will be non-classified.

Records Management expertise should also be resident in the IC, specifically, consulting on the application of records life cycle management. In addition, questions pertaining to the application of records management to e-mail may be appropriate for the IC.

Command and local publishing and printing needs fall under ISC. Departmental, AMC and TRADOC technical publications are not part of ISC.

The IC should act as a consultant in the telecommunications arena, for example, informing the user where to go to get a telephone line, or how to develop a requirements analysis.

An additional role of the IC in the future may be to help users prepare their IMP initiatives. Solutions are not now required for the needs identified in the IMP process. Should solutions be required in the future, the IC may help users identify possible solutions.

Another role suggested for the IC was property tracking. The Automation Resource Planning Management Information System (ARPMIS) which inventories information system could be maintained by the IC.

The following transition issues were identified as the IC incorporates the IMA disciplines: (1) cross training of staff will be required; (2) the role of the IC will have to be established; (3) physical constraints will have to be resolved; (4) the economy of combined resources will have to be established; and (5) the fact that the integration will take time will have to be acknowledged.

The following descriptions/opinions of the IC were provided during the meeting. The role of the IC is to provide information, not products and services. The IC is a clearinghouse which provides a management function, not an administrative service. The IC is facilitator of services. The

role of the IC is to direct people to the source of help. The IC is equivalent to the information desk in a library. The IC is for users and not technicians. The IC guides the user to the source of information; the IC does not provide the information.

Following the meeting Ms. Hamilton escorted the ISN and AIRMICS visitors to the Pentagon's Headquarters Training and Assistance Center. MAJ Jerry McGuire described the operation of the Center which incorporates user support for four (4) existing systems.

*DISC4 (SAIS-PSP) - Director of Information Systems for Command, Control, Communications, and Computers (Policy Directorate, Policy Division).

**APPMO - Army Publications and Printing Management Office

Washington Area Information Center Working Group
25 May 1988

At the invitation of Mr. William Keely of the Seventh Signal Command's Army-Wide Planning Branch, Ms. Ruth Ann O'Connell participated in the Washington Area Information Center Working Group's May meeting. Army ICs, or organizations represented included: AMC, Pentagon, Fort Ritchie, Aberdeen Proving Ground, GPCSC, Fort Lee, Fort Detrick, and Walter Reed.

Ms. O'Connell gave a brief overview of AIRMICS' IC research to date, and then asked the group for input on how their installations were incorporating the IMA disciplines into the IC. The group identified three (3) major impediments to the operation of the existing IC: (1) the lack of staff resources allocated to the IC; (2) the lack of top down guidance for what the IC should (and should not) do; and (3) the increasing number of stovepipe systems. The consensus of the group was that these problems will be magnified as the role of the IC expands to incorporate other IMA disciplines.

IC representatives offered the following examples of services which have been added to the IC's original scope at their installations: (1) communications joined with automation in the IC facility; (2) support of programs such as Video Show in the IC; (3) support of STAMMIS in the IC; (4) centralized training in the IC; (5) acting as the POC for re-use of equipment; (6) material fielding of equipment; and (6) serving as the POC for the IMA disciplines.

Several opinions were offered regarding the issues which would have to be resolved to achieve an integrated IC. It was

felt that staffing resources would have to be allocated to the IC, specifically a minimum of one representative of each of the five disciplines. In addition, boundaries would have to be established defining the role of the IC in relationship to other organizational elements, specifically: CPO, ISF, and the operating organizations of the discipline areas. Finally, the opinion was expressed that integrating communications into the IC would be easier than integrating records management, visual information, and publishing and printing.

Site Visit - Fort Benjamin Harrison
6 - 7 July 1988

Ms. Lisa Sheedy hosted the ISN team of Ms. Ruth Ann O'Connell and Mr. Bill Overbay during the Fort Benjamin Harrison (FBH) site visit. FBH currently has two (2) ICs which will be reorganized into one (1). One IC has supported the Finance and Accounting Center (USAFAC) while the other supported the Soldier Support Center (SSC). The SSC IC is part of the DOIM organization. Mr. Paul McClelland is Chief of the USAFAC IC; Ms. Sheedy is Chief of the SSC IC.

The visit began with a tour of the SSC IC. The IC is physically divided into three (3) areas: (1) consulting; (2) self-help graphics; and (3) training lab. The self-help graphics lab contains a color printer, a laser printer, a plotter, and a slide maker. The staff assumes that users are experienced with the hardware and software; the IC staff is available to answer questions, but does not provide training.

The training lab contains Zenith and Wyse micros. One-half day classes are offered in DOS and one (1) day introductory classes in Multimate, dBASE, and Lotus. The micros are tied to a mainframe, and mainframe training is provided as well.

The consulting area includes problem solving, system configurations, and repairs. The IC handles automation acquisitions and issues standards regarding hardware, software, and communications. The IC has a dBASE III database of trouble calls.

The IC is the front line for the DOIM. While discipline experts for all IMA disciplines do not belong to the IC, they are

"on call" for questions. Approximately three (3) years ago, a memorandum from the DOIM was sent to the IMA discipline areas requesting their support of the IC. The staff of this IC includes four (4) individuals.

Ms. Sheedy described five (5) problems which negatively impact the operation of the IC: (1) lack of staff resources; (2) increasing user expectations; (3) lack of user understanding for the potential of computers; (4) a waiting list for training of approximately 800 persons; and (5) managing microcomputer resources.

The site visit team met with Mr. Jack Sheedy of the Software Development Center. This center supports mainframe financial applications. Currently 150 terminals in more than sixteen (16) buildings are linked to the mainframe. The network is interconnected to the Pentagon and Fort Leavenworth. PROFS will be implemented soon. Information about PROFS will be provided to users through the User Group sponsored by the SSC IC. Mr. Sheedy believes that electronic mail will replace message traffic.

The Software Development Center provides user support. Users typically have questions about standard systems or call to report when lines go down.

Mr. Sheedy sees the role of the IC as the first line to user problem solving. The IC will provide "cook book" answers.

Following the meeting with Mr. Sheedy, the site visitation team met with Mr. Charlie Rodgers of the Resource Management and Plans Division, Plans and Standards Branch. This organization falls under the DOIM and prepares the installation IMP.

The IMP includes plans for all IMA disciplines, except visual information. IMP initiatives are prepared in June and October. Every organization has an Information Systems Office which prepares the IMP for its group. FBH has not completed an overall Information Systems Plan. The focus of the IMP process is on the required capability, not acquisitions of specific items or quantities.

The next meeting was with Mr. Paul McClelland, Chief of the USAFAC IC. This IC opened in 1985. Staff for this IC has included up to ten (10) personnel. The IC focuses on microcomputers. The IC meets with users to establish user needs and prepare a capabilities requirements document. The IC then sends the paperwork to procurement. When the order is received, the IC "burns in" the equipment and delivers the unit to the user.

The IC has two (2) training facilities. One (1) facility has fifteen (15) Wang micros, the other has fifteen (15) Zenith micros. Two (2) day courses are taught. Both beginning and advanced courses are taught. Users are required to wait thirty (30) days between courses. The courses were developed by a contractor but are taught by IC staff.

The staff receives between 400 and 600 trouble calls per week. These are logged on a Trouble Report Form. These logs have been used to define staffing needs for the IC.

The USAFAC IC has a walk-in area which contains optical character readers, micros, and laser printers.

In addition to the microcomputer support, this IC also supports some mini applications. The IC assists users perform

applications development; some applications development is performed in the IC.

Ms. Darlene Moore spoke about records management (RM) at FBH. RM includes electronic typewriters and copiers, and the acquisition function for these devices. Currently RM functions are not automated. The RM function has not yet been transferred under the DOIM. It will be a part of the DOIM's Information Support Services Branch when the planned reorganization is complete.

The FBH site visit concluded with a meeting with the DOIM, Ms. Mary Greene. Ms. Greene expressed her view that the primary purpose of the IC was for micro support. She would like to see the IC as the point-of-contact for the IMA, while the specialized staff remain in their current organizations. The IC could provide guidance on the IMA disciplines, but should not take over the operations of the discipline areas. Desktop publishing, local area networks, and copier evaluations are examples of activities which Ms. Greene would consider for the IC. She voiced several concerns about an integrated IMA IC: (1) maintaining quality support for all disciplines; (2) unnecessary levels of management; and (3) appropriate staffing.

Site Visit - Headquarters, Training and Doctrine Command
13 - 14 July 1988

Mr. John Pabst, Chief of the Information Technology Division (ITD), under the Directorate of Information Management, hosted Dr. Mike Evans of AIRMICS and Ms. Ruth Ann O'Connell of ISN during the site visit.

Mr. Pabst provided an overview of the ITD. The division provides support to the Army's third tier--micro and minicomputers, and electronic mail. Almost every employee at Ft. Monroe has a micro. These micros are currently being networked. The focus of the division has changed accordingly. The division contains two (2) branches: (1) Research and Applied Technology and (2) Information Requirements and Services. Summaries of each branch are provided later in this report.

The ITD includes the IC concept; however, currently there is no organization labeled the IC. The division was formerly titled the Information Center Division; the name was changed to reflect a broader scope of activities.

Mr. Pabst noted two IC services which are not included in his division. User training falls under the Plans, Resources, Management Training, and Security Division. Hardware maintenance contracts are supervised by the DOIM but not by this division.

Mr. Pabst noted that the IMA disciplines of printing and publications, visual information, records management, and the libraries have not been transferred to his DOIM. His division does provide support to the IMA disciplines on a case by case basis, e.g. desktop publishing.

Users are made aware of the services of the ITD through

messages on PROFS. In addition, all new personnel on post attend a briefing. The DOIM is scheduled for one hour of the briefing.

Mr. Pabst feels that the biggest problem currently facing the division is increasing user demands, as user sophistication increases.

After meeting with Mr. Pabst, Dr. Evans and Ms. O'Connell met with Ms. Iris Bollinger, Chief of the Information Requirements and Services Branch. This major activities of the branch include the: (1) Demonstration and Assistance Center (DAC); (2) Help Desk; and (3) Automation Function Support. Ms. Bollinger is developing a career path for personnel within the branch.

The DAC, formerly termed the Physical Information Center (PIC), provides hardware and software assistance, vendor demonstrations, hardware and software showcase, hardware and software loans, one-on-one training, and software product review. A telephone demonstration area is soon to be added to the DAC. The DAC is staffed by four (4) persons.

The Help Desk provides a central point of contact for inquiries and problem reporting. The help desk records any problem requiring more than 15 minutes to solve or requiring a site visit. Problems are recorded on an automated problem tracking log. A daily report is printed indicating all open (unsolved) problems. The help desk is operated by a contractor. It is staffed by three (3) persons who work staggered schedules.

The division is interested in applying artificial intelligence techniques to the problem log. In addition, they want to add manpower data to the log.

The Automation Function Support Team (AFST) provides technical assistance to users in the forms of requirements analysis and performance authentication. The team used to be heavily involved in installation of equipment. Now that most equipment is installed, the team will do more consulting on how to use technology appropriately. The change in focus will also be reflected in an integration of the DAC and the AFST.

The team is also involved in the Information Management Plan (IMP) process. The team works with users to prepare CAPRs and write initiatives. The team reviews the initiatives for compliance to the Army's architecture, consolidates the IMP for TRADOC HQ, and presents the IMP to the DCSIM.

Each AFST member supports several ISOs. The division meets with the ISOs approximately every three months to review concerns. The meetings are held less frequently than in the past because policies and procedures are well established.

The AFST consists of five (5) staff.

Ms. Bollinger feels that the IMA is the "new wave," but that it will take time for the integration to be implemented.

Following the meeting with Ms. Bollinger, Mr. Jay Gulati, Chief of the Research and Applied Technology Branch, described the activities of his branch. The branch works with users to identify needs, analyze requirements, and find solutions which fit with in the Army's architecture. Alternately, the branch will perform a technical review of a user developed configuration to determine compatibility. The branch also prepared technical specification for acquisition of hardware and software.

In addition to its requirements analysis activities, the branch conducts studies. For example, a recent study compared the cost effectiveness of a minicomputer versus a LAN for shared computing needs. The study determined that the LAN would cost approximately one-half the cost of the mini to implement.

The branch is divided into three (3) teams, focused on mini, micro, or local area network (LAN) issues. Total staff for the branch equals seven (7) persons.

Mr. Gulati described the problems he experiences as a provider of user support. The biggest problem, he feels, is the long turn around time in the procurement system. He also feels that the grade levels of his staff are too low, causing turn over and loss of expertise.

The visiting team also met with representatives of the IMA disciplines. Mr. Wayne Crawford described visual information (VI) at Ft. Monroe. VI includes graphics, photography, and audio visual support. Mr. Crawford and the ITD have developed a "rule of thumb" for determining what products will be supported by VI versus the ITD. If the only intent of the software product is to produce graphics, then the product is supported by VI. Examples include Harvard Presentation Graphics, Video Show, and Graphtime. However, if the product is an integrated software package which performs other functions besides graphics (e.g. Lotus 1-2-3), then the product is supported by the ITD. Mr. Crawford would like VI to be the central location for slide makers (e.g. Polaroid Palette). Mr. Crawford cited two installations where IMA disciplines have been integrated. At Camp Perry users have photo-typesetting software. Documents are then transferred

electronically to the printing plant. The Media Support Center at Ft. Leavenworth provides support for both VI and printing and publication.

Mr. Doug Pagett, Printing Manager under the DCSIM, defined publications and printing as the development and printing of a document. In TRADOC the DOIM owns printing plants, however some duplication centers have not transferred. Under the TRADOC publication and printing plan customers will be able to develop documents on local micros which can communicate with the DOIM's dedicated publishing system.

Mr. Pagett voiced several concerns about the integrated IMA concept: (1) it is difficult to establish priorities when serving two masters; (2) the chargeback concept has been operational in the Navy since 1943, however the Army currently has no policies and procedures for establishing the cost for preparing a document; (3) performance is negatively impacted by a decreased printing budget, and staff resources transferred from printing to the DOIM.

Mr. Warren Atkins, Ms. Ann Thompson, and Mr. Bob Reynolds participated in the discussion about the discipline of records management (RM). They feel RM should be involved at the beginning of the IMA process when the user identifies his information needs. Ms. Thompson participates on the Army's Electronic Record Keeping Workgroup. Each MACOM is represented in the workgroup. Ms. Thompson is also working on a prototype electronic records management system.

Plans are under development to add a prompt to PROFS electronic mail asking the user to place a value on the information for retention purposes.

Automation and communications were described as the train driving the IMA. The opinion was expressed that there should be only one (1) acquisition procedure for procuring equipment for any of the IMA disciplines.

The TRADOC site visit concluded with a debriefing with Mr. Mac Bently, the Acting DOIM. Mr. Bently feels there has not been firm guidance or direction from ISC on what belongs to the DOIM. In addition the role between 7th Signal Command and ISC is unclear.

Mr. Bently sees the role of the ITD as the first line of help for users. Users should call the ITD with problems in the IMA arena.

Career paths under the DOIM should be developed, according to Mr. Bently. The intern program now focuses on automation, but that focus should change to include all IMA disciplines. In addition, there should be opportunities for division chiefs of all disciplines to receive the training necessary to be eligible for the DOIM position.

(Army) Washington Area Information Center Working Group
20 July 1988

Army ICs or organizations represented at the meeting included: Fort Meade, GPCSC, INSCOM, and Aberdeen Proving Ground.

IC staff members from INSCOM and Aberdeen Proving Ground shared information about their ICs. The goal of the IC at INSCOM is to promote user self-sufficiency. The site has noticed a phenomenon they call user waves. That is, new users come often to the IC for support for a period of four (4) to five (5) months. At that point the users are fairly self-sufficient, and visits/calls become less frequent. Then a new wave of new users replaces the now experienced ones.

The INSCOM IC is planning two (2) new marketing efforts. The IC will hold an open house in August. In addition, the IC is developing a plan to market targeted staff elements. Currently, the IC has a brochure which is used for public relations.

In the past the INSCOM IC was partially staffed by contractors; this is no longer the case.

In addition to standard IC functions, the INSCOM IC establishes microcomputer standards for its command

The Aberdeen IC is the central point of contact for all calls relating to the IMA disciplines. If the expertise needed to answer the user's question is not resident in the IC, the IC forwards the request to the appropriate staff element. The IC is considered the focal point for the DOIM.

Marketing techniques at Aberdeen include a quarterly newsletter, and exhibiting at the local Federal Offices Systems Exposition (FOSE).

The Aberdeen IC provides a software catalog which is distributed command-wide.

Following this discussion, the meeting concluded with a presentation by UNISYS on the Department of the Army Standard Minicomputer Program.

Fort Belvoir - Site Visit
07 September 1988

Mr. Al Rue, the manager of the Fort Belvoir IC, hosted CPT Jeff Horne of the Naval Postgraduate School and Ms. Ruth Ann O'Connell of ISN during the site visit. The visitors first toured the IC and then met with Mr. Jim Reynolds, Fort Belvoir Deputy DOIM.

The IC at Fort Belvoir opened in November of 1985 and was staffed with five (5) part-time personnel. The staff has expanded twice since then, and another expansion is planned. Mr. Rue was expecting to receive a fifth full-time staff member within a month of the site visit. The staff is made up of programmers and communications specialists.

Mr. Rue sees the IC as driven by forces outside of the center. The center is guided by user wants and management wants. Mr. Rue does not see the IC's role as one of change agent.

The IC has five (5) areas of service: (1) customer service representative for new business; (2) guidance/assistance in the areas of acquisition, CAPRs, and maintenance; (3) problem resolution for hardware and software; (4) service demand/ technology trending; and (5) information dissemination.

In the early days of the IC, the staff worked closely with novice computer users, performing one-on-one hand holding. Since that time the center has encouraged users to make use of the help desk. Over 230 calls a month are logged in an automated trouble log. Calls which can be answered immediately over the phone are not included in the log. The current philosophy of the IC is that they are the user's eyes and ears but not his hands. That

is, the IC staff try to provide the user the information he needs to solve the problem himself, without a house call.

The DOIM currently has chargeback mechanisms in place for telephones, messages, and mail. No ADP services are currently charged-back. The IC's automated trouble log reports calls by group supported. These reports may eventually be used for chargeback.

The IC coordinates ADP maintenance contracts and serves as the vendor point-of-contact. The IC also certifies CAPRs against the IMP before they are submitted to contracting.

This IC does not evaluate hardware and software. That function is performed by the Resource Management and Plans Division (RMPD). The RMPD also establishes installation standards.

Training is a relatively new service for the IC. The Civilian Personnel Office (CPO) offers formal ADP training, while the IC provides one-on-one and "get me started" training. User guides for PROFS and the DSS network have been developed in the IC.

The IC provides support primarily for Tier Three users of Office Automation. The IC serves as a point-of-contact for all IMAs, but to date most requests are for automation or communications support.

This IC maintains a low profile in order to control the level of user demands. A sticker with the information "For advice, assistance, guidance, or computer help call DOIM Information Center 664-INFO (4636)" was recently recalled from use to meet a reduction in forms directive.

The major problems experienced by this IC are those of resources--both staff and funds. The IC has outlined services such as newsletters and video-teleconferencing which are beyond the scope of the current resources.

At the conclusion of the IC tour, Mr. Rue escorted the visitors to the office of the Deputy DOIM, Mr. Jim Reynolds. Mr. Reynolds echoed Mr. Rue's concern about resources for the IC.

The IC staff at Fort Belvoir are paid for by post funds, not ISC.

Mr. Reynolds sees the role of the IC as the front door to the IMA. The IC is a liaison, not the interface for recurring information products. According to Mr. Reynolds, the IC should be a technology show-place/demonstration center.

Mr. Reynolds feels that the integration of the IMA disciplines into the DOIM has gone smoothly at Fort Belvoir due to the strong support provided by the garrison commander.

Mr. Reynolds favors the use of chargeback as an "appetite suppressant" for user wishes.

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APPENDIX B
FUTURE DIRECTIONS

Army Information Centers: What's Next

The following ideas were generated in a meeting on 05 October 1988. Participants included:

Dr. Mike Evans	AIRMICS
Mr. Jim Gantt	AIRMICS
CPT Jeff Horne	Naval Postgraduate School
Mr. Bill Keely	7th Signal Command
Ms. Ruth Ann O'Connell	ISN
Mr. Bill Overbay	ISN
Mr. Gary Peckham	ISN

1. Central tracking/evaluation of new technology. Results could be disseminated to ICs electronically.

2. Central clearinghouse for Army developed software.

3. Artificial intelligence/expert systems applied to help desk functions. Potential for users to have direct access to expert system.

4. Implementation of ICE at model site(s). Evaluate and make recommendations/modifications for possible Army-wide implementation.

5. Centrally developed newsletter articles; individual ICs would add site specific information. Newsletter distributed to sites electronically.

6. Central evaluation of computer-based training packages.

7. Information Center Bulletin Board, including information described in 1, 2, 5, and 6 above.

8. Defining the IC's role vis a vis the installation's architecture and data administration efforts.

9. Exploring the benefit of regional ICs. Regional ICs could be designed to support: (1) a geographic region, (2) a MACOM, or (3) a functional area.

10. Impact of installation LANs on the IC. Assigning responsibility for network administration.

11. Develop a prototype demonstrating the integration of new technologies.

12. Application of new technology to the problems of (1) records management, (2) printing and publications, and/or visual information.

13. A study of possible chargeback mechanisms for the IC.

14. Develop a recommended/proposed staffing standard for ICs.

15. A study of the IC's relationship with (1) tactical units; (2) the National Guard; and/or (3) Army Reserve components.

16. The Army IC lifecycle/stages of development.

17. A study of current efforts to consolidate IMA support services.